

## WHAT IS CLAIMED IS:

1. A device for detecting the rotating speed of a fan motor, the device comprising a motor and a gear case fixed with said motor, a gear fixed around a shaft of said motor, 5 said gear engaging with one of plural gears contained in an interior space in said gear case, said plural gears in said gear case engaged with one another, with one of said gears therein connected to a rotating shaft 3 of a fan; and,

Characterized by a permanent magnet embedded in one 10 of said plural gears in said gear case and a magnetic inductive element fixed on a fundamental plate, said fundamental plate together with a base secured stably in said case body, thus letting said magnetic inductive element lying above, not on, said gear in order to maintain a fixed distance between them, 15 a HALL IC used as said magnetic inductive element and activated by a magnetic field of said permanent magnet to operate for detecting the rotating speed of the motor.

2. The device for detecting the rotating speed of a fan motor as claimed in Claim 1, wherein said permanent magnet 20 is fixed around the shaft of said motor to operate together with said magnetic inductive element to detect the rotating speed of the motor.